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MARCH, 1883.

THE ANNUAL MEETING of the Horticultural Society of Western New York was held in this city on the twenty-fourth and twenty-fifth days of January. Much of interest transpired, many interesting and able papers were read, and many subjects discussed to the mutual advantage of those present. Our space does not admit of a full report, nor is it specially desirable to lay it all before our readers, as many topics that engaged attention are those that frequently appear in these pages. A few points, however, will be noticed.

The President, P. BARRY, delivered an able address. In noticing fruit growers, he said, "Too many of them are satisfied with the old ways and seek no better. The Western States are sending their Apples to the east, and it was fortunate, this year, our own being a total failure. California sends Pears and Grapes, and will, no doubt, send other fruits. But all this competition can be met and overcome by increased energy and intelligence in the use of those advantages which nature has bountifully given us." He thought it was "true that many fruit growers do not prepare their crops properly for market. It is also true that they do not grow the highest quality of fruit. Fine Pears, nicely put up, were sold the past season at \$5.00 to \$6.00 per bushel, in October, when the

ruling price was not over \$5.00 a barrel. Our grape growers do pretty well in sending their fruits to market, but many poorly colored, ill ripened Grapes are sent and sold at correspondingly low prices. Our cultivators must turn over an entirely new leaf. We must have higher and better cultivation."

In regard to nurserymen, he remarked that their object should be to raise the best trees and plants, not the cheapest. "Above all, let nurserymen do all in their power to free the profession from those foul excrescences, the fraudulent, irresponsible agents, peddlers, or whatever names they may be known by."

As to horticultural taste among the people of this State, he remarks, "The cultivation of exotic plants, flowers and plants for house and lawn decoration is not improving as it should, considering the increase of wealth and taste among our people." The speaker dwelt upon the need in places like Rochester of a good society, that by exhibitions and prizes might establish a higher standard. He rejoiced that the city of New York was likely to have a good society. It was a disgrace to the commercial metropolis that it had not accomplished this many years ago. In regard to horticultural societies the interior of the State is far behind where it was twenty-five to thirty years ago. Then there were flourishing

societies in Rochester, Buffalo, Auburn, Geneva, Syracuse, etc. They ought to be reorganized."

The truth probably is, that horticultural taste is now more widely diffused among the people of this country, but the standard is not as high as it once was. Even among people of wealth, who now expend considerable money upon their gardens, the real love of horticulture is not so manifest, the refined and discriminating taste in all that relates to the garden is not so apparent. There is a sense of loss now to those of us who felt the influence of flourishing horticultural societies a quarter of a century ago, but we do not despair of the future; on the other hand, it is our expectation that horticultural societies will yet spring up of a different character from former ones, but perhaps more powerful for good, and which shall enlist the sympathies of the humblest plant cultivators. Small societies will probably be formed by a few persons of similar taste for mutual improvement, by means of relation of experiences, by discussions, shows of special plants and fruits, and perhaps occasionally a social entertainment. Eventually a number of these local societies may unite and form a grand league that shall bring out one or two large exhibitions each year. But whatever may eventuate, there is undoubtedly a glorious future for horticulture in this country.

Bacteria as a cause of Pear blight was the subject of one of the papers read; but nothing in it, or in the discussion that followed the reading, was conclusive of the cause of this destructive malady. The proof is positive of the presence in diseased Pear trees of the minute organisms called bacteria, but whether a cause or a concomitant is yet an open question.

The veteran horticulturist, JOHN J. THOMAS was present, and read an interesting essay on landscape gardening and ornamental trees. He thought that in no way could grounds about residences be made so attractive at so slight an expense as by planting on them ornamental trees and shrubs. In the discussion following this paper, one speaker expressed a favorable opinion of planting ornamental trees and shrubs, but thought it would be better to keep the grounds surrounding country residences in meadow, as thereby they could be easily mowed and kept

neat. Another member agreed to this suggestion, and remarked that a field of waving grass was a beautiful object.

It seems scarcely credible that such ideas as the above could have been expressed at a meeting of this character, but free discussion allows even those least informed to venture their opinions. The dweller on the prairie would willingly forego the beauties of the waving grass for a good wind-break of deciduous and evergreen trees. The bitter blasts of winter have but little pity even for us in the eastern states, and a wind of thirty or forty miles to the hour with the temperature at or near zero, as most of us have experienced the present winter, will not cause us to think very favorably of a house standing in a meadow in the open country. The fact is, we need a thorough reform in all parts of the country in the treatment of the grounds about our dwellings. In all the region north of the latitude of the Ohio river at least, our dwellings should be well protected on the west, north-west and south-west by heavy screens or plantations of trees, cutting off the winds that are so prevalent from those quarters. And not only the dwellings, but the stables and sheds of the animals should be so sheltered. This is a subject we have not yet awakened to, and only the few who are well situated in this respect know the comforts thereby experienced; the rest suffer without knowledge, or by neglect of a possible remedy. Though this subject is not new it is one to which little attention is given, and we know of no way that so valuable improvements could be made to our country homes as the planting of wind-screens. A few trees, or a little group, will not make a sufficient screen, but there should be a considerable mass, and better if evergreen and deciduous trees are combined. There are a few such places in this country, but they are far too rare. As a good illustration we here present a view of an English country house and grounds, embowered as we would have it, and which may be a model for us. The foreground may properly be planted with single specimen trees and small groups of trees and flowering shrubs. Let us clothe up our naked country homes, adding both to their beauty and comfort.

The failure of the Apple crop in this

region was considered. A long, cold storm at the time Apple trees were in bloom, last spring, prevailed over a wide extent of country, and prevented the fertilization of most of the flowers; a few weeks later innumerable aphides covered the under sides of all the leaves, and probably weakened the trees to some extent. On the 14th of September a gale swept over the whole country and tore from the trees most of the fruit that had grown; at gathering time, in October, only an occasional Apple was to be

on the leaves, but insert their sucking tubes into the leaves almost immediately after birth, and remain in this manner motionless until death, drawing their sustenance from the sap in the leaves. But it is needless to use a poison, like Paris Green, when milder substances are efficient. Tobacco smoke, which in this case could not have been applied, weak tobacco water, which could have been applied, and a mixture of kerosene oil and water by means of milk or soap to form a union, are instantly destructive to these in-



AN ENGLISH COUNTRY HOME — FOND COTTAGE, ENDSLEIGH.

found, except in some few orchards that escaped on account of favorable local conditions. The cold storm in the spring and the gale in the fall were without remedy. The visitation of the Apple aphid was a new and unexpected affliction, and the resulting damage was almost complete before its presence was known. One member said he used a solution of Paris green, throwing it on the foliage, and it destroyed the insects. Another as positively stated that he had tried Paris green and it had no effect. These contradictory statements are probably explained by the fact that the visit of the insects was of short duration, not more than a week, we think, altogether. If the solution was applied within a day or two of the close of the visit the inference would be that it had destroyed them, but applying it earlier it was found to have no effect. And this is likely to be the truth, for the insects do not feed

on the leaves, but insert their sucking tubes into the leaves almost immediately after birth, and remain in this manner motionless until death, drawing their sustenance from the sap in the leaves. But it is needless to use a poison, like Paris Green, when milder substances are efficient. Tobacco smoke, which in this case could not have been applied, weak tobacco water, which could have been applied, and a mixture of kerosene oil and water by means of milk or soap to form a union, are instantly destructive to these in-

sects, and the latter substance is the one we should advise to be used in such an emergency, following it with clear water, both applications being made by a portable hand force-pump. These substances were advised by some of the speakers. We tried the kerosene oil on our own trees, last spring, with perfect success. But the greatest and most persistent foe to orchardists is the Codlin moth. One member from Niagara County had raised three hundred and sixty barrels of Apples, and after storing them had found but six barrels not affected by worms. It may be appropriate here to introduce a portion of a communication in a late number of the *London Gardeners' Chronicle*, to show the danger of losing our foreign market for Apples, unless the Codlin moth is exterminated, or at least well controlled. "It will be interesting to many of your readers to learn that American Apples have this year been very

generally in the North imported in a very unsatisfactory state. I send you an Apple which is by no means the worst, although many are better, and some, but fewer, not affected at all. It seems that the maggot or caterpillar has been fully developed, and left the Apple before being packed in the casks in America. The Apple sent is a Non-such, and I may say was imported into Hartlepool, and that not only about twelve casks which I made a present of to my friends, but the shop-keeper tells me the same, that they never knew American Apples so eaten by maggots. If some of these insects have not reached this state when they leave the port, there is some risk that they may be imported to do material mischief to our own Apple crops in the future." It is evident the time has come when some concerted action must be taken to conquer this enemy. It is nearly useless for a part of the orchardists to fight while the rest are idle.

Paris green applied to the trees just after the fruit is set will destroy nearly all of the insects, and there is no objection to its use. On this point J. J. THOMAS made the following statement: "The quantity of Paris green held in suspension by the water being one tablespoonful to ten quarts or more of water, is only one part of the poison to six hundred parts of water. The blossom of the young fruit points upward when it is small, and the calyx cannot hold more than two or three drops of the poisoned water at the utmost. These two or three drops would contain not more than a two-hundredth part of a grain of arsenic, which is several times less than the smallest safely administered by physicians. As Paris green is insoluble in water, it cannot enter the pores of the fruit, and the little that remains on each specimen is all washed off by rain long before the fruit is ripe and not even the minute harmless portion remains. This was proved by Professor COOK, of Michigan, who cut out a large number of blossoms of Apples which had been very heavily dosed early in the season, and handed them for examination to Dr. KEDZIE, the well known analytic chemist, who failed to discover by the use of the most rigid tests the smallest vestige of the poison."

A report was made on the new native

fruits, and a long discussion on this subject followed; but the information in regard to the newest fruits is too limited to allow of a final decision at this time of their merits. The Manchester Strawberry was regarded favorably by several members. The James Vick Strawberry was said to be like the Manchester, with the advantage of being a staminate variety, while the Manchester, which is pistillate, has to be planted near some staminate variety. The James Vick is a solid berry and will bear handling well.

The Brighton, the Pocklington, the Niagara, the Vergennes and the Prentiss Grapes received each a share of commendation.

Lombard, Reine Claude de Bavay Copper, Moore's Arctic, Pond's Seedling and the McLaughlin were mentioned as some of the most valuable varieties of Plums for orchard culture. One speaker mentioned sixteen feet by sixteen feet as a proper distance to plant Plum trees, remarking, "I believe in close planting and high feeding."

Different kinds of vegetables were considered. One speaker remarked that the Hubbard Squash is excellent, not only for family use, but is very valuable for fattening hogs and feeding milch cows, and that he could fatten more pork on an acre of Hubbard Squash than on an acre of Corn. The statement was confirmed by others.

The use of Paris green, it was said, would kill the black stink-bug that eats the Squash vine, but it will not kill the small striped bugs. The use of bits of cotton saturated with kerosene oil and placed among the Squash vines was recommended to keep off insects of all kinds.

A large number of varieties of Apples and Pears were exhibited by ELLWANGER & BARRY; S. D. WILLARD, of Geneva, presented a plate of Josephine de Malines Pears; E. WILLIAMS, of Montclair, N. J., showed five varieties of Apples, and a plate of the Kieffer Pear, which had been kept in a retarding house; CHAS. BRIGHAM, of Spencerport, showed three varieties of Apples raised in Missouri; J. O. RUPERT, of Penn Yan, exhibited Catawba Grapes; T. S. HUBBARD, of Fredonia, showed several plates of Prentiss Grapes; T. CORLIS, of Lockport, showed a new seedling Potato; and JAMES VICK exhibited twenty-three varieties of Potatoes.

RAISING CAULIFLOWER.

This most delicious vegetable should be raised for every farmer's table in the land, and it should occupy a prominent place in all vegetable gardens. Those situated so that they can market the crop with facility will find it very remunerative to raise on a large scale. A rich, deep soil is necessary to bring it to perfection, and frequent showers are of great benefit to the crop. Rich bottom land should be selected, and, if possible,

kind, and is remarkably early. Plants of it raised under glass were planted out here last spring early in May, and the heads appeared on the table by the mid-of June. Perhaps we cannot expect any earlier variety ever to be produced. The heads are of medium size, compact and solid. The plants can be set as close as eighteen inches apart each way, or for horse cultivation place the rows two feet apart and the plants sixteen inches apart in the rows.

For a succession this variety can be



EARLY SNOWBALL CAULIFLOWER.

some means be provided for irrigating, or of affording a supply of water in some way. The plants are raised in the same manner as Cabbage plants, and it is important that they should be started early, by means of hot-beds and cold-frames, and be hardened off and ready to plant as soon as the weather will permit. The cool weather of the early spring and the frequent showers at that time are peculiarly grateful to them, and a very much larger percentage of fine heads will ordinarily be produced from early planting than from late. Within the last few years much attention has been paid to breeding the Cauliflower for earliness, and it has responded to the efforts made for this purpose in much the same manner as the Tomato. The Early Snowball Cauliflower is the latest valuable production of this

kind, followed by Erfurt Earliest Dwarf, followed by Extra Early Paris, and these by Early Algiers, Erfurt Large Early White, Early Italian Giant and New Imperial, which will mature about the same time; for later crops the Early London, Le Normand, Large Asiatic, Stadtholder, or Walcheren may be employed. If desired, we think the Early Snowball might be relied upon at the North for a late crop, by planting in the last of summer when the heat begins to decrease, though we have not had experience with it in this way.

Cauliflower plants require frequent cultivation, commencing as soon as they start to grow. After transplanting, a vigorous growth is required to get plump, well developed, succulent heads, and water is essential.

THE PORTULACA.

This popular annual should be one of the few that first engage the attention of the beginner in flower culture. If any of our readers is intending to make his first attempt with flower seeds and does not know exactly what to select, let him take the Portulaca. We would use the best seed of the double varieties we could find, for there will be sure to be some single ones among them, enough for all the interest that may attach to the flower in its natural or perfect condition. The double flowers are as perfect as little double roses, and are produced in the greatest profusion all through the summer and fall. To start the plants early, sow the seed in a pot or box in the house, keep warm and in about two weeks the little plants will begin to show themselves, looking like little reddish grains on the surface of the soil. A heat of 65° to 75°, or more, is best for them, and give the full benefit of the sunlight. The seed should be sown on the surface of some light, sandy soil, with a light sprinkling only of sand to cover it over. The seed is exceedingly fine, and only the slightest covering is desirable. When the plants are a quarter of an inch or more in length it will be best to prick them out singly into other pots of similar soil, giving them a little room to spread. As soon as frosts are past they can be transplanted into the open ground in a place fully exposed to the sun. This is no plant for the shade, it wants heat; in a dry, sandy soil where it receives the reflected heat of a building, or wall, or fence, it will thrive best.

The Portulaca is admirably adapted to carpet-bedding, as it is a very dwarf-growing plant, and with its various colors a great variety of designs can be worked out. The colors are produced quite true from seed, but in carpet-bedding a plant of an undesired color should be removed as soon as it shows, and its place will be occupied by others which spread very rapidly. In transplanting into beds the plants should be set about six inches apart.

A little attention to watering may be needed at the time of setting, but the plants will take care of themselves pretty well in this respect after the roots start. Keep out the weeds from the beds, and

stir the soil frequently while the plants are young, but when they begin to spread freely they may be allowed to take care of themselves. There is no part of the country where the Portulaca will not do well, provided it is in a light, sandy and dry soil, with a full exposure to the sun. There is no place in the South too warm for it, and its culture is so simple that any child can make a beautiful flower bed with it.

SEED - TIME.

In all parts of the country the gardener has his hands full now; it is seed-time, and what the harvest shall be depends greatly upon the improvement of the golden days of spring-time. In the South the early garden vegetables are already maturing, and the seeding has been done for later ones. The hot-bed, the propagating house, and the cold-frame are bringing forward in a small space the plants that are to occupy large areas when finally planted out. The forcing frames are giving early Lettuce and Radishes, and as soon as these are off the space is sown again for plants that will be required late in spring. At the North but little has been done with seed sowing, but now we cannot be too active. Those using hot-beds cannot prepare them too soon, and even the windows will now be full of pots and boxes, with Tomatoes, and Cabbage, and Cauliflower, and many kinds of flowering plants, all being brought along to be ready at the proper time to plant out. Strong, stocky plants should be ready for the final transplanting. Be careful to give the plants air now, in their close quarters, as often as possible, and to afford them plenty of light, for if shaded and kept too close they will become drawn, as gardeners say, that is, they will have long, feeble stems and small leaves. Shift the little plants as often as they become crowded, affording them more room; the effect of frequent removals is to greatly develop the roots, and to produce a short-jointed, stocky growth of stem. Tomato plants in this manner may be made very handsome, especially if the tops are occasionally pinched off, causing them to produce branches, and they will be worth many times more than those usually kept for sale at the shops.



MARCH IN SOUTH CALIFORNIA.

The first of Spring
Has come again—not as of yore,
With ice and snow about the door,
And blasts that sting;

It comes with grace—
With song of birds and hills of green,
And azure sky that does not screen
The sun's bright face.

I sit and sew
Within the broad veranda's shade,
A gentle zephyr doth invade,
The bee hums low.

When I look round,
My soul is filled with calm delight,
At the fair picture, lying bright,
That here is found.

The wild flowers gay,
Deck the green plains with many a hue,
From brightest red to palest blue,
Rare beauties they.

Here are the calm,
Cool, orange groves of living green,
And, past the vineyard's stretch, is seen
The stately Palm.

And, yonder, show
The mountains—some are bare and stern,
And some, that fainter I discern,
With crests of snow.

'Twill far excel
The fairest eastern Spring I've known,
This gladsome Spring-time, in our own
San Gabriel.

—ALICE P. ADAMS, *San Gabriel, Cal.*

THE PLUMBAGO.

It is a source of regret to most lovers of flowers who have a taste for artistic and delightful effects of combination in color, that we have so few blue flowers. Most of the flowers that we have of that color are of too rich and bright a blue to combine perfectly with the delicate tints which characterize our most desirable flowers for garden beds and vases in the parlor.

Until I saw *Plumbago Capensis* in bloom I was not aware that there was

any plant having flowers of such a lovely shade of blue. It was a revelation to me. The plant I saw was growing in a friend's garden. It was an old one, and had attained the dignity of a shrub. It was lifted every fall, before frost, cut back well, and potted for use in a bay window. When I saw it it was a mass of pale blue flowers, so soft in tint that a little way off one could imagine a cloud of Indian summer haze had settled on the bush and been transformed in some magical way into blossoms. It was growing among pink and white *Geraniums*, and the effect was most exquisite. I afterward saw some of its flowers in vases with pink *Fuchsias* and *Marechal Niel* Roses, and I fell in love with the plant, for its delicate flowers had just the right shade and peculiarity of color necessary to afford sufficient contrast. It gave tone to every thing it was used with, without being at all self-asserting. In a quiet way, like some friends we all have, it seemed to bring out the best features of its neighbors, and you would observe its effect and half wonder how it produced it. The secret is in its delicate harmony with all colors not too vivid and intense. It would not look well among scarlet *Geraniums*, but among rose colored and salmon ones it would have a fine effect. Neither would it appear to good advantage among bright yellow flowers, but with those of more delicate shades of yellow it is invaluable in bringing out their beauty of color. I have planted out mine in summer in a bed of *Calliopsis*, with good results. One would suppose the rather vivid yellow in the *Calliopsis* would neutralize the effect of the delicate color of the *Plumbago*, but it does not for the reason that the dark, rich brown which stars the heart of the flower acts as a harmonizer and blends the three shades

in a chord of color as effective and delightful as some unusual chords of music are.

I lift my *Plumbago* from the garden bed early in September, and give it plenty of room for its roots in a soil made tolerably rich with fine, well rotted manure. When I pot it I cut it back well. The flowers are borne on new growth always, and therefore it must be kept in a growing condition to be effective. Giving good soil and cutting back will induce this necessary growth, and it is a good plan to cut back all the end branches as soon as the flowers on them fade, thus inducing new branches to start along the stalk. The leaves are not ornamental, and the best effect is produced by placing the plant among others which will hide all of it but the end of its branches. Last winter I gave mine a place on a stand containing *Eupatorium Mexicanum*, *Master Christine Geraniums* and a *Calla*. The *Calla* stood in center and lifted its broad leaves and two white flowers royally above the others. About it the feathery clusters of *Eupatorium* mingled with the soft, filmy blue of the *Plumbago*, and among these the pink clusters of the *Geraniums* shone vividly enough to give tone to the whole. If I had only had a fine plant of *Safrano* or *Marechal Niel Rose* to combine with the others the picture would have been perfect. There is no other color which puts so much life into a bouquet, or a group of plants, as yellow does; not the intense yellow of the *Marigold*, though that can be used so as to be very effective, but the softer shades, such as we see in *Roses* and *Carnations*. — EBEN E. REXFORD, *Shiocton, Wis.*

WHITE DAISY.

The White Daisy, *Chrysanthemum frutescens*, which is now extensively used in greenhouses in some localities, especially in large cities, like New York, is in almost as much demand by some lovers of flowers as the Rose. I remember seeing in one of the chief flower establishments on Long Island a large greenhouse devoted to the culture of this plant. I was surprised to see so large a space filled with what I thought but common flowers. On inquiring why such varieties were mixed, I was told that the flowers sold to some parties as readily

as *Roses*. A few days since I saw a young gentleman, who was apparently fond of flowers, refuse some fine spikes of *Bouvardia* in preference for this White Daisy, and could but wonder at the growing taste for single flowers. Any one who has not had the opportunity of seeing this single mixed flower, the Daisy of which we write, can see another species growing in the meadows and roadsides, the well known Ox-eye Daisy. The flower is apparently exactly the same as the one first mentioned, but the foliage and habit of growth somewhat different. It is astonishing to see how these White Daisies are sought for in the summer by the ladies, and daily can be seen carriages stopping along the road side, and busy children and ladies gathering them. These flowers rank among the choicest for parlor and sitting-room decoration. A few vases filled with these wild flowers form a very pretty sight. I was once called upon to fill several vases with wild flowers, and I selected the Ox-eye Daisy, *Toad Flax*, *Rudbeckia hirta* and *Millfoil*, and other flowers and grasses were added, and when completed they were admired by all.—R. G.

THE CHINESE PRIMROSE.

The Primrose! How redolent of perfume the very name! How laden with the memories of school-boy days in the Old Country! Even as I write I think I hear the merry shouts and laughter of my mates, and call up many woodland scenes where on Saturdays and half-holidays we were wont to gather Primroses, Wood Anemones and wild Hyacinth, and hunt birds nests, and then meander home laden with flora's wealth and free from care, through those dreary old, rambling, crooked, high-banked, country lanes. Truly we realized the poet's ideal of rustic simplicity when

"The Primrose by the river's brim,
A simple Primrose is to him,
And it is nothing more."

I wish I could take some of the lovers of flora, among my readers, a memorable walk I once had in Cheshire and part of Flintshire. I was then a florist and seedsman in Liverpool, and having a holiday started with a friend for a good long walk. We took an early train into Cheshire, and alighted at a station called Capenhurst, and then walked through

Primrose-carpeted country lanes six miles to Queens Ferry, over the river Dee, which is there only 100 yards wide; then on we went up the hill, up and higher up, to the grand old church at the top, where worships one of the greatest statesmen England has ever seen. There, what a wondrous view! The Dee from Chester to its mouth lies at your feet like a great silver serpent; scores of hamlets are nestling in orchards white with bloom, while to the west the purple outline of the Welsh mountains forms the background of a picture of wondrous beauty.

they have not reached perfection they are very near it in florists' esteem. I have this year some wondrously deep fringed, yellow-eyed, pure white ones, some of the flowers measuring two inches across. Then, again, I have some single flowers that are delicate blush rose, and others of shades passing on through crimson, deep crimson, almost maroon, and again others that range in color from pale lilac to purple; then in semi-double flowers there are white, rosy white, lilac and lakey purple, and double ones that are pure white, as perfect as small Camellias.



GROUP OF CHINESE PRIMROSE PLANTS. FROM A PHOTOGRAPH.

On we go under giant trees of Oak and Beach, up the quaint old street, past the village cross, and turning sharp to the left, are in the centre of the village of Hawarden, the home of that glorious old man, the Hon. W. E. GLADSTONE. From this place we went on another six miles to Chester, stopping now and then to cull a flower, or listen to the laughter of the village children as they sported in the meadows as happy and as free from care as the lambkins that gamboled near them.

You will naturally conclude, dear reader, that I am a lover of flowers, and rightly; for the rearing of flowers is my chosen profession, and I propose to tell you how I raise Primulas. A great deal of attention has been paid of late years to the perfecting of the Chinese Primrose, *Primula sinensis*, and its varieties; and if

Who does not prize the Primula? so chaste in color, so perfect in form, so elegant in leafage and habit! Truly it is the queen of winter flowers, as ready to beautify the humble window, or the more pretentious jardiniere in the parlor, as the conservatory of the wealthy, and is thoroughly at home wherever carefully attended. An old English cookery-book begins a recipe with "first catch your hare," and then goes on to tell you how to skin, dress, cook, and eat it; and, following so good a precedent, I say first get your seed, and I will tell you how to raise it. Be sure to get the best seed to be had, no matter what the price; it will be cheap at two dollars a packet if good, or dear at a dime if bad. I think I hear some of my readers, who only have a window to raise plants in, inquire: Am I to pay fifty cents for the few plants I

shall want? Dear reader, you will not take fifty cents for *one of your plants* next Christmas if you are successful with them; besides, two or three persons can send jointly for a packet of seeds, and then divide the seeds or seedlings between them. The seeds procured, take a six-inch pot, put a few pieces of broken crock in the bottom, over this put about an inch of coarse soil, then mix some sand, leaf mould and loam, the greatest proportion of leaf mould, fill the pot to within two inches of the top when slightly pressed down. Water this with boiling water, as by so doing you will destroy all insects and larvæ in the soil. When it cools sprinkle the seeds over the surface and put about the eighth of an inch of sawdust over the seeds, and water with a fine rose; put a square of glass over the pot, and stand it in a corner of the window or greenhouse; keep the soil moderately moist, and you will soon see the seedlings pushing their noses through the sawdust. When the plants are in the second leaf pot them off singly in small pots, or prick them off into pans; I prefer the latter. Keep the plants from the sun for a few days until they have got over their shift. They will soon be large enough to pot into three-inch pots, which will be about June if the sowing was made in March. Now prepare an ash bottom against a wall facing west or north, and on it place a frame with a brick at each corner, raising it so as to allow free circulation of air; stand the plants in the frame, giving each one plenty of room, and then put on the sash, raising it about an inch for air. The compost I use for Primulas is two parts turfy loam, well rotted, one part leaf mould, and the remaining part very old rotten manure and sand; always be sure to put a piece of crock, concave side downwards, over the hole in the bottom of the pot, as the plants don't like stagnant water. As soon as the roots are well through the soil at the bottom give the plants a shift into five or six-inch pots, using the same compost and putting a layer of the coarse siftings of the manure over the crock. When the plants begin to throw up flower stems, pinch them out, as this will cause them to throw out other crowns and, consequently, more bloom in the winter. I have some with eight or ten crowns, and as many

trusses of bloom on all the time. If very large plants are wanted they will need another shift into seven or eight-inch pots, and this time put a good layer of well rotted manure in the bottom, always taking care to use the boiling water to destroy insect larvæ and white worms, and of course letting the manure partly dry before using. The plants must be removed into the house or greenhouse before frost comes, and by this time they will not be out of place anywhere, and I have no doubt will be brought in with many notes of exclamation and admiration, and with a little care and feeding they will bloom continually for five or six months; but I must tell you that the nearer they are to the glass the finer the flowers and the better and brighter their colors. The double varieties may be perpetuated in the following way: When the plant has done blooming in spring, remove some of its old soil, repot it deeply, so as to cover the base of the crown, in compost of equal parts sand, leaf mould, loam and sawdust, and place it in a gentle hot-bed. In ten to twenty days each crown will have rooted, and the plant can then be carefully divided and the little divisions grown on with the other stock, carefully shading them from the sun until they have got root-hold. I consider the double varieties quite as hardy as the single. I have some two dozen plants from which I have cut hundreds of bloom, and still there are hundreds on them, and hundreds more to follow.—WM. HY. WADDINGTON, *The Hall, Toronto.*

ASPARAGUS FOR THE FARMER.

There is a time in the spring, after winter fruits and vegetables are gone, and before the gardens begin to yield, in which the housewife finds herself sorely perplexed to keep her table supplied with a sufficient variety of appetizing food. Those within the reach of a city market do not feel this season of scarcity, for by railroad and steamboat facilities the gardens of Florida and Bermuda are brought to their doors; but the great mass of farmers are remote from these advantages. The farmer's wife with a large family, and two or three "hands," to provide three meals a day for, is obliged to take thought, not only for to-morrow wherewith her table shall be supplied,

but also for to-day, and for each approaching meal.

It is just in this time of dearth and perplexity that Asparagus, that most delicious and wholesome of all vegetables, comes in season. The young shoots, cut when from two to four inches above ground, cooked tender and seasoned with new milk and cream and a little salt,



make a breakfast fit for a king. What a pity, I almost said calamity, it is that it is not more generally cultivated for the table in the country. There it still retains its clownish name of "Sparrowgrass," and is often seen in pretty little clumps by the door or in the garden for ornament only. Farmers are apt to think the cultivation of such things "too much bother." If they only knew it Asparagus requires much less attention than grain crops. Instead of being sown yearly as they are, an Asparagus bed properly made improves with age and last a lifetime. I remember some enthusiastic young married people who, in starting a home, made in their "garden of Eden" an Asparagus bed 6 feet by 6 feet, and a Rhubarb bed 20 feet by 6 feet. After a little experience the Asparagus bed was enlarged to 50 feet by 100 feet and the Pieplant diminished to four roots. These dimensions have remained satisfactory. I would suggest an amendment to the Homestead Law, to the effect that each should, within a specified time start an Asparagus bed of ample size or forfeit the claim to his land. If this were a law we might have a better chance to "throw physic to the dogs," and to give the doctors a six weeks' vacation.

I hope the day will come, when on every farm there will be an Asparagus

garden as well as an orchard; when the farmer's wife will get her breakfast, during this season of "ethereal mildness," not from the dingy smokehouse, but from the Asparagus bed, where the young shoots have been made sweet by the soft showers of April, and the refreshing dews of May.—AUNT FANNY, *Morningside*.

AZOREAN FORGET-ME-NOT.

The Azorean Forget-Me-Not, *Myosotis Azorica*, is a very beautiful half-hardy perennial plant belonging to the natural order Boraginaceæ. The *Myosotis* has always been a general favorite, and almost all of us have been familiar with it from our childhood—*M. alpestris* being the variety generally cultivated. *M. azorica* is, however, the best of the genus, and strange to say one of the least known, and for this very desirable species we are indebted to Mr. HEWITT WATSON, who discovered it growing near and around water courses on the beautiful and fertile Islands of Azores. Mr. WATSON in speaking of this pretty plant describes it as being found about waterfalls and on wet rocks having a north-eastern aspect, in the Islands of Corvo and Flores, the most north-westerly of the Azores. Its prop-



MYOSOTIS AZORICA.

er habitat appears to be the mountains, although it comes down nearly to the sea shore, following the courses of the rocky mountain streams, where the atmosphere is kept humid by the spray of the water. As above said it is a half-hardy perennial plant, of compact bushy habit, growing from one to one and a half feet in height, producing its turquoise blue flowers in the greatest profusion during the summer

and autumn months, and if properly treated it is equally suitable for the decoration of the greenhouse during the winter months. In the flower border this *Myosotis* prefers a rich deep soil and a moist, partially shaded situation, and in time of drouth copious waterings should be given. When grown for the flower border the seed should be sown in a hot-bed or in the greenhouse; early in spring sow thinly, in a well drained pot or pan of light sandy soil, and cover slightly, keep close and moist, watering carefully, and as soon as the young plants are strong enough to handle transplant them into three-inch pots or shallow boxes two or three inches apart. Keep them close and moist until well established. Afterwards remove to a cold-frame, gradually harden off, and plant out when all danger of frost is over. The seed can also be sown in a cold-frame about the tenth of April, or in a nicely prepared border in May, but will not flower so early. When grown as a greenhouse plant the seeds do best when sown in a partially shaded situation about the first of July. Sow thinly and keep moist until the young plants have attained size and strength. Keep the young plants from crowding each other, and as soon as cool weather sets in take the young plants up carefully, pot them in suitable-sized pots, use ordinary potting soil, and drain the pots well. Do not use too large pots for the plants, yet they should not be permitted to become pot-bound. Keep them as cool as possible until they are wanted for flowering; then remove them to a light sunny situation and keep them clear of the green fly by an occasional slight fumigation of tobacco. If the young plants are taken up early in September and placed in a cold-frame, they can be preserved throughout the winter if kept cool and dry; cover them up well during severe weather so as to guard them from severe frosts, yet air must be freely given during mild weather, the object being to prevent their starting until the weather becomes settled in the spring. When room is limited in the greenhouse the cold-frame will be found very convenient from which to obtain a supply of plants for succession, for as soon as the plants cease flowering they are of no value; and should be thrown away.—CHAS. E. PARNELL, *Queens, L. I.*

THE CYCLAMEN.

Winter-flowering bulbs are very desirable, and their culture is easy and plenty of flowers is the result of their successful treatment. Hyacinths, Tulips and other Holland Bulbs are well known among all lovers of flowers, and within a few years a great interest has been shown in the cultivation of the Cyclamen. The introduction of this plant to the parlor and conservatory has proved its value. The Cyclamen is a native of Europe and Asia,



CYCLAMEN PERSICUM.

where it is found growing wild on the mountains, in dry and sheltered places, protected during winter by the fallen leaves and snow. The base of this plant is a tuber, which cannot be divided. The plants are, therefore, raised mostly from seed, and some very fine varieties have been lately obtained by hybridizing. The seed should be sown about the latter part of February, in a shallow box or pan, far enough apart to allow the young plants to be removed with little disturbance of the roots. The best soil for this plant is composed of peat, loam and white sand well mixed together. After sowing, place near the glass and the seed will easily and quickly germinate. After making the first leaf the bulb will commence to form, and when about the size

of a small pea should be transplanted into a quite small pot, (thumb pot,) and kept during the warm weather in a half-shady place, well watered. In August, or the first days of September, the bulb should be shifted into a larger pot. The size of the pot should be, as a rule, about three times as large in diameter as the bulb. My own experience has taught me that the less the little plants are shifted from one pot to another the more and better they will flower. The accompanying cut shows a plant grown from seed sown about a year ago; transplanting was performed in May, and the plant shifted into the pot where it is now in flower, the latter part of September. It has produced more than thirty flowers already, and is still covered with buds. Cleanliness, and a very even temperature of about fifty degrees are essential.



FLOWER—NATURAL SIZE.

After the flowering season, which ends usually about the latter part of April, the pot should be sunk in the ground in a shady place to keep the bulb plump, for dryness and hot weather will shrivel it. The crown of the bulb should be a little above the soil; good drainage is necessary. In September, the bulb can be placed in the conservatory or sitting-room, and will soon grow vigorously under common treatment. The plant will make best growth when kept cool, but should be removed to a sunny place as soon as flower buds begin to appear. A good three-year-old bulb will have from fifty to one hundred flowers during the blooming season. Seed should never be allowed to form, except when so desired, as it will injure the plant. The seed is formed in a very curious way. After the decay of the flower the stalks curl toward the surface of the soil, where

they deposit the ripened seed, which can then be gathered and dried.

There are several varieties of *Cyclamen* in cultivation, among which *C. Persicum* is one of the best. The species differ most in the marking of their leaves and flowers. The leaves of *C. Persicum* are heart-shaped, toothed on the edge, of a dark green color, marbled and veined with grayish white. The under side is reddish. The flowers grow on tall stalks, and have long, reflexed petals, and somewhat twisted. A flower of natural size is shown. The colors of the flowers are white, white with carmine or rose at the base, dark magenta and other shades. Mice are very fond of the bulbs, and it may be necessary to take some precaution to prevent their depredations. The bulb is said to contain a poisonous acid.—C. M., *Rochester, N. Y.*

TREES FOR PRAIRIE HOMES.

The subject of tree planting is one that will always be of interest to people who are laboring to make comfortable homes on these western prairies. One of the greatest objections to a home on the prairie is its exposure to winds, but though they are rather unpleasant at times they carry off a vast amount of miasm, the natural accumulation of such a rank growth of vegetation and so much newly broken prairie soil under the process of decay. Still if there is no protection we are apt to get too much of a good thing. Twelve years ago we moved to a treeless farm on the high prairie. It looked very little like home with only a little shanty for a family of six, and a straw stable for our faithful horses that had brought us from northern Illinois, over roads that were fearful to contemplate. Some of the little ones cried, and said they never could live in such a place. However, those same faint-hearted ones have lived and grown to strong and healthy young people, and have taken no small part in planting and taking care of trees until we are surrounded by trees of all sizes, from the towering Cottonwood and Lombardy Poplar to the seedling and cutting put out last spring. There has not a season passed but we have planted more or less of the various sorts until we now have a wind-break that has so modified the climate in its charmed circle that we are able to raise varieties

of fruits and flowers that had been tried unsuccessfully by others, and of which we made a failure while the winds had it all their own way. The first furrows that were turned were planted to trees, good sized ones brought from the timber so as to get shade as soon as possible. They are there yet, but hundreds of the seedlings, since planted, have outgrown them, and are more than twice as large now. In May the Soft Maple seed was ripe, and as it must be planted before it dries there was some work for all hands. The seed was dropped along as we used to drop Corn and covered with a hoe. For two or three years we raised Corn and Potatoes among them. This gave the trees the needed cultivation until they were able to take care of themselves. Our manner of planting cuttings is to plow up a ridge as for Sweet Potatoes; have cuttings about a foot in length and stick them in slanting to within one bud. Keep them free from weeds a year or two and they will shade the ground so that weeds will have no show. We have had Cottonwood grow ten and twelve feet the first season. We have a hedge row planted in this way three years ago next spring and the trees are large enough to fasten barbed wire to, and beat any post driven into the ground for strength. A great many fences are being made in that way. One or two wires where the trees are pretty close together make a good fence. We are more than paid for our labor by the cool shade and the kind protection in winter, to say nothing of the added beauty and attractiveness of the place. Of the usefulness of some kinds not mentioned in this I will reserve for a future time.—MRS. E. S., *Barrett, Marshall Co., Kan.*

HAVE YOU A GARDEN?

Have you a garden?

I ask this question of every man who owns a little patch of ground. Having ground and not a garden, you are not living up to your privileges. I am aware that most men think work in the garden only fit for women and boys. This I find to be the case among farmers. I know of men who can hardly be induced to plow the garden until every thing else is done in spring. They seem to think it isn't worth while.

Now, I know, from an observation of

some years, that half the living of a family of five or six persons can be raised from a small garden, and the labor called for is not excessive, when judged from a woman's standpoint, for in one of these little gardens all the work is done by a woman, who tells me that she finds pleasure and health as well as profit in the work.

Think of it! How long will it take to draw manure enough to enrich a small piece of ground? How long will it take to plow the ground after the manure is drawn? Half a day will more than cover the time demanded for doing these two things. One day's work will be sufficient for making beds, and we will allow another for sowing seeds. Two days and a half to begin with, and I am making a larger allowance of time in which to perform the work in most gardens than I ought to, for most gardens are small. You will be surprised to find how much can be done in two and a half day's work, when the work is done systematically. If you have to spade the ground instead of plowing it, perhaps three days will be used up, but I think not.

When your seeds are sown, you have nothing more to do until the weeds begin to grow. Then you must not neglect your garden if you would make a success of it. I find that very many persons start out in the spring very enthusiastically; their enthusiasm wanes before the weeds come, and before they get round to attend to what ought to be done promptly, the poor vegetables have become so choked and over-run with weeds that they never amount to much. The rule of greatest importance in gardening is this: Do what work is to be done when it needs doing. Do not wait, and think, well, it's only the garden, I'll get around to it after more important work is attended to. If you once have a good garden, you will not put the garden in the back-ground after that. You will consider it of prime importance. The fact is, a good garden is second to nothing else about the farm in point of value, so far as the living for the family is concerned. If proper attention is given the weeds when they begin to grow it will be an easy matter to keep them under all through the season. Once let them know that you are master and mean to remain so, and they will give up; but they are stub-

born and persevering, and they will keep you fighting them all summer if you begin the battle in a half-hearted way. The work of weeding and keeping the garden beds clean is not very hard or disagreeable if you have the proper tools to work with. You want a small hand cultivator, which can be adjusted to work at any width between the rows, a sharp hoe, and a narrow-bladed hoe, coming to a point, a hoe shaped like a V, only rather narrower, or longer, in proportionate width and length, than that letter. About most farms there are broken hoes from which a tool of this kind can be fashioned. It can be ground down thin and sharp on the edges. It is of great use in hoeing close to vegetables and in cutting down weeds. With these three articles, an hour's work daily during the early part of the season will keep quite a garden clean.

Have you never thought of the variety a garden will give your bill of fare? Green Peas, Beans, Cucumbers, Radishes, Cabbages, Melons, Squashes, Corn, Potatoes, Salsify, Onions—the list is a goodly one, and from it you can suit all tastes. The variety in it is not only appreciated by the appetites of all, but it is healthful because of the change it admits of from a routine of two or three articles of food. Of all men, farmers are the most privileged to enjoy these luxuries of the table if they will, but the truth is, they ignore them more than any other class, and are confined to a narrow list of eatables, of which it is no wonder that they grow weary. With the vegetables at hand which a garden will afford, the housewife can so vary the daily bill of fare that there is always something tempting and attractive on the table. Garden vegetables are a greater luxury in many farmers' homes than among the families who live in town. There is no reason why this should be so. If a farmer will give it a good trial for one year, he will convince himself that no part of the farm pays so well as the garden, and he will not neglect the cultivation of one in the future. He will be surprised to find how much can be raised on a small piece of ground. Country women, who know the value of both, will tell you that a cow and a garden will furnish half the living for quite a large family, and we believe them.—R. F. D., *Shiocton, Wis.*

CALIFORNIA NOTES.

The Hyacinths show buds, and the Anemones, also. Our Polyanthus Narcissus have been in bloom more than two months, and new blossoms are constantly appearing. The Roses are not doing very much, just now, January 22d, though we are always able to find a few buds for eastern tourists, who drive through nearly every day, and exclaim at sight of the plants. We had a few sharp frosts, last week, that nipped the Heliotropes and the Fuchsias; but to-day the mercury stands at 71°, which we think very comfortable winter weather.

We have had very little rain thus far in Los Angeles county, but it is not too late for the drenching showers to water our thirsty land. You understand, of course, that the lack of rain does not injure the orange grower, only increases his labor by necessitating more irrigation; but a comparatively large portion of the State is devoted to grain raising on what is called dry land, and if there is little rain in winter the farmers do not have much of a crop. Sheep raising is a great industry here, also, and the poor sheep suffer terribly in a dry year. So we all feel a deep interest in the rains for the "good of the country," to say nothing of our own personal enjoyment, when the parched earth is freshened, and hill and plain are covered with the soft, velvety green of the Alfilerilla, (native grass) in contrast with the brown of summer.—A. P. A., *San Gabriel, Cal.*

DESTROYING TREE INSECTS.

As an evidence of the need of applying a soap and carbolic mixture twice, if not three times, in a season, to the stems of Peach and Plum trees, Apple trees, Mountain Ash, Japan and other Quinces, I will mention that although eggs appear to be laid in June, rendering it necessary to wash in the beginning of that month, I have found eggs laid, or at least hatched, as late as October first; for, having set some side grafts in the collars of Peach and Plum stocks at about that date many of them were found eaten out by the the newly hatched larvæ, when the grafts were examined ten or fifteen days later. The eggs of the borers that affect the Apple, Quince, Siberian Crab and Mountain Ash, hatch usually in August.—W., *Tyrone, Pa.*



ROCKWORK.

As a sample of tasteful rockwork on a large scale we are pleased to present a scene in the Kew Gardens, showing a portion of a rockery constructed last season. Our illustration is after one that lately appeared in the *Gardeners' Chronicle*, from which is also taken the following description: "The boundaries being defined, the soil was removed to the depth of several feet, and heaped on either side in broad, undulating ridges and mounds. The subsoil consists of almost pure sand, which still forms the preponderating element in the body of the work. The whole consists of a series of winding banks, running almost due north and south, and measuring along the center somewhat over five hundred feet.

"The material for building consists of stones of various nature and geological interest, obtained from a distance partly, the largest consignment being from Cheddar, in Somersetshire. The botanist may recognize several British plants transported with the stones and thriving admirably, as *Asplenium Trichomanes*, *A. Ruta-muraria*, *Scabiosa Columbaria*, *Thymus Serpyllum*, *Poterium Sanguisorba*, and others. A great quantity of stones from various parts of the grounds have also been utilized, consisting of sandstone, limestone, Bath, Portland and granite, with a few blocks of artificial construction. Three of the principal curves have been faced with tree roots of ponderous dimensions, obtained from woods in the pleasure ground. Against the theory of their harboring vermin, it may be argued that by vigilance and promptitude the vermin can be kept under; and if after a number of years the roots should decay and fall down, necessitating reconstruction of the work, ever-changing fashion may suggest alterations

and improvements which the present generation cannot or will not see.

"All along the ridges *Rhododendrons* are planted, which have made admirable growth in the sandy soil, which has had no other amelioration than a heavy coating of half-rotted leaves mixed with it. The two largest mounds on the east side, having an elevation of ten or twelve feet, are capped with a plantation of *Box*, interspersed with healthy young *Conifers*, giving the whole a very natural appearance.

"Sheltering the rockwork, or in the immediate background, and sufficiently near to play a conspicuous part in the scenery from various points of view, are ornamental or interesting specimens of *Pinus excelsa*, the Bhotan Pine, with its fascicles of long, pendant, silvery leaves; also *P. Strobus*, and *P. Austriaca*, the Weymouth and Austrian Pines, the latter noticeable for its massive habit and somber appearance. There are also *Hollies*, *Limes*, evergreen *Oaks*, *Yews*, red Horse Chestnut, *Cupressus Lawsoniana*, *Acer striatum*, the striped-barked Maple, and *A. eriocarpum*, the silver Maple—which latter is a handsome specimen, with long, pendent branches and elegantly cut leaves, while underneath, and when ruffled by the wind bearing a considerable resemblance to the White Poplar. Beside this is a young and thriving pyramidal specimen of *Sequoia gigantea*, about thirty feet high, and another of *Cryptomeria Japonica*, about the same height.

"By the end of April the planting of the ridges had been executed, while the stone and rockwork had attained their present form and appearance. Not a particle of cement has been used, but the stones, of all conceivable shapes, and many of large dimensions, are laid at

every possible angle and inclination, devoid of formality and repetition, leaving ample spaces for the reception of the plants and depth of soil for their roots. Very few overhanging stones are observable, thus giving the plants every advantage of the rainfall, which in the climate of London probably does not exceed a yearly average of twenty-four inches. No special soil for alpine plants or elaborately compounded mixtures have been used, but simply a mixture of heavy

dominant one. About four thousand plants were put in, and notwithstanding the lateness of the season and the advanced state of vegetation very few deaths occurred. In a short time it was quite apparent that the plants had taken to their new quarters.

"Ample drainage for surface water and means of watering in dry weather having been previously provided, a walk along the center with an average width of ten feet, margined with a line of irregular



SCENE IN THE NEW ROCKERY AT KEW GARDENS, LONDON, ENGLAND.

loam inclined to clay, mixed with rotted leaves, and incorporated with the sand forming the body of the work. For Ericaceous and peat-loving plants a space has been made up with peat. That the plants are in a suitable medium present results amply testify. Immediately the place was in readiness for planting, that operation was begun with alacrity by the limited staff belonging to the herbaceous department, and finished, with the exception of a few minor details, in a very short time. Very little grouping or botanical arrangement is as yet attempted, the popular idea of having the various species thoroughly mixed being the pre-

pieces of stone, was hurriedly constructed, and the place formally thrown open to the public in the early part of June.

"Although within a short distance on either side, the interior of the place is entirely concealed from view, save for an occasional glimpse of a tall plant or projecting stone, entering at the north end by a short declivity we can examine the chief objects of interest, and a few of the more important plants in bloom. It is the aim and purpose of the authorities that the whole available space should be devoted to the cultivation of hardy and wild plants, that is, botanical species and varieties, to the exclusion of garden forms.

"On nearing the south end further progress seems to be obstructed by a bank of tall Hollies backed with taller Limes. This place enjoys no sun for the greater part of the day, and is entirely occupied with Ferns. Here the stones are closely placed, scarcely leaving room for the insertion of the plants. A deep, narrow recess is intended for the formation of a miniature cascade. Noticeable amongst the Ferns are *Osmunda regalis* with its variety, *palustris*, a delicately formed and fine plant, having the young fronds purple. There are also *Aspidium lonchitis*, *A. munitum*, *A. acrostichoides* and *A. hirtipes*, all evergreen forms; *Adiantum Capillus-Veneris*, *Asplenium fontanum* and *Nephrodium rigidum* are rare British species.

THE GLADIOLUS IN ENGLAND.

The Gladiolus that thrives so well here, appears to be going from bad to worse in England, according to writers in late journals. One person who has been raising them for twenty-five years writes in the *Garden* that he has "been brought to the humiliating position of having to confess failure." He says that "some of the best gardeners in the kingdom, amateur and professional, have tried them. They have studied their wants, tried every thing that has been suggested, and ultimately have succumbed to the inevitable. As to myself, were it not for the kindness of my friend, Monsieur SOUCHET, of Fontainebleau, and for the fact that I am able, by taking care of the spawn, to keep many varieties that I should otherwise have lost, I should long since have given them up." The same writer states that he went, last autumn, to visit a garden where formerly "there used to be the largest collection of the flower grown by any amateur in England," and that he saw there only a couple of beds which he was told "the owner had hardly looked at this season; this," he adds, "I could well understand, for he offered his collection this year as a present to any amateur who would grow them, for," said he, "'when I have lost in two years nearly fifty thousand bulbs it is time to give them up.'" The most that can be done with them, it appears, is to take the spawn or young bulblets and give them good culture for two years or more, or until they are of blooming size,

and then to flower them once, after that they become diseased. Another writer, in a later issue of the same journal, referring to the communication from which our quotations have been made, says, "Delta says, 'I am able, by taking care of the spawn, to keep many varieties that I otherwise should have lost.' Now, according to my experience, this statement contains the whole secret of success as regards Gladiolus culture. I cannot do much more with the old corms than 'Delta.'"

In this country we may thank our bright skies and summer heat for this beautiful flower which we raise so easily and in great perfection.

BROWALLIA ELATA.

"I consider this," says a correspondent of *Gardening Illustrated*, "one of the best subjects that can be grown, especially where means are limited and a constant supply of cut flowers is expected to be kept up through the autumn and winter months. I use its flowers along with those of *Begonia insignis*, white *Bouvardias*, and other suitable subjects for button-hole bouquets; and well grown plants of it are no mean objects for room decoration." We have several times called the attention of our readers to this plant for winter flowers, and especially can we recommend the blue flowered varieties.

DARWIN MEMORIAL.

The committee in London appointed to receive subscriptions for a memorial to DARWIN has now in all £4000. The number of subscribers in the United Kingdom is about six hundred. In Sweden the great naturalist had many admirers, and the local committee there has received amounts from no less than fourteen hundred people, from the Bishop to the seamstress, and in sums varying from £5 to 2d.

ZINNIAS IN THE TROPICS.

A correspondent at Puerto Berrio, Colombia, South America, writes, "This part of the country is a barren wilderness. Latitude, 6° 22' North; longitude, 74° 28' from Greenwich. Zinnias from VICK's seeds make a fine show, but nothing else succeeded."



PLEASANT GOSSIP.

POINSETTIAS—HYDRANGEAS.

What is the proper treatment to give the Poinsettia after blooming? I have a plant of it seven or eight years old, which grows tall and straggling, and only has three trusses of flowers. Can it be cut down below the place where the wood is very old, and by so doing make it grow more stocky? I have three old-fashioned Hydrangeas. Will alum water or iron filings change one of them to a blue, or must it be a pink one to take any effect? In the garden I have several *Hydrangea grandiflora paniculata*. Last year they blossomed freely, but the petals of the flowers did not seem to develop. Can you tell the reason?—MRS. A. M. BABBITT, *Bristol, R. I.*

After the Poinsettia has done flowering keep it short of water for the rest of the season, allowing its wood to harden. The latter part of August the stem can be cut down as low as may be desired, and the plant shifted into another pot of the same size, and supplied with fresh soil. Now give water, but not too much, and place it in a light, warm place, and it will push out new shoots from the old stock.

Iron filings placed on the soil over the roots of *Hydrangea Hortensis* are said to have the effect of changing the color of the flowers to blue; but we know the plants sometimes produce bluish colored flowers without any application to the soil. The petals are undeveloped in the showy *Hydrangea*, the flowers consisting merely of a white or colored calyx. This is a fact, and the reason for it is inquired for, but no one knows.

AMARYLLIS.

There are many kinds of Amaryllis, and I know to my sorrow that they do not all do with the same treatment. I have only windows to grow them in. I have had an *A. Belladonna* five years; every year it sends out leaves in the fall, but no flowers, and several other kinds that I paid a lot of money for, have quietly rotted away. One writer says, "bear in mind their habits at the Cape." Well, if you do not know what that habit is, what are you going to do about it? And there is *A. valotta*, that every one says is of the easiest culture, every year I buy a bulb, but it is of no use, no flower will come for me, and it dies like the rest. If some one would take pity on

me, and I am sure there are others would like the same, and give a full account of their treatment, I would be more than obliged for it.—MRS. J. J., *Parry Sound, Ont.*

We have frequently given directions on the culture of different kinds of Amaryllis, but it is desirable that those of our readers who have had experience with these plants should now give their modes of treatment. Some will have cultivated one species, and some another, and the information possessed by a few will benefit many when published.

PLANTS IN FIRE-PLACE.

Will you please tell me what flowers would grow in a box set in the fire-place in summer. Would like to have some vines, also something to fall over the sides of the box, and some blooming plants, if possible. The fire-place gets a little sun and plenty of light. If convenient, please answer this in the next number of your MAGAZINE.—MISS L. C., *Richmond, Va.*

Not many flowering plants would probably do well in the fire-place; but we would call attention to the list of plants for the shade, given on page 52 of our last issue. The English Ivy and the so-called German Ivy would serve as climbers. Some kinds of small Palms and Ferns and *Dracenas* would probably appear to best advantage.

SPOTTED CALLA.

Is it a common thing for the Spotted Calla, *Richardia albo-maculata*, to run to seed in the greenhouse and to ripen its seed? I had a Spotted Calla seed last winter, but as it was a green looking thing, I put it away, and now have sown the seed, and it is growing finely. Although I have had a greenhouse for fifteen years I have not been able to succeed with all plants.

It is not uncommon for this plant to produce seed in the circumstances described. The last statement above contains a confession we can all make; but, as it is never too late to learn, there will always be something for plant-growers to hope for.

INQUIRIES AND NOTES.

I should like your assistance in improving my Phlox Drummondii; I am intent on having a handsome bed of it, this year, if possible. Our garden soil is rich and old, and is excellent for Asters and Balsams, but my Phlox has more foliage than flowers. Would the plants be improved by nipping off the tops? And would the soil be improved by adding sand? Our grounds are limited and I can only try two or three new kinds of flowers each year. Last year one of the new ones was Dianthus, six varieties. They were very fine in form and color, and I think they will be still finer this year. They are excellent border plants where they can have plenty of sun. The Tuberoses were also new to me, yet every bulb gave a full spike of perfectly double flowers. Another flower, which was the admiration of my friends, was Calendula Meteor; it was planted among the Asters, and appeared like a new variety of that popular flower. Among the great variety of our fine flowering plants none pleases me more than the Centranthus; it is not common here, but is well worth cultivating, especially the pink variety; for autumn bouquets it is invaluable, when flowers are growing scarce, its pretty, glaucous leaves and clusters of bright, deep pink flowers linger after every other seed plant has been destroyed by frost.—MRS. M. E. J., *Lincoln, R. I.*

Both the methods of treatment for Phlox Drummondii proposed above would be proper. The addition of a large proportion of sand would undoubtedly be a benefit in this case.

CLIMBER HARMFUL ON OAK.

I wish to inquire if you have known in your experience, any harm having been done to the Oak by allowing the Woodbine, or as it is otherwise called, the Virginia Creeper, to run over it. I have a fine specimen of the Oak on my grounds, covered with this climber, and should not wish to sacrifice it. I did not know but the matter might have come under your observation. I find there is some doubt about the effect of it expressed by some agriculturists.—J. H. H., *Worcester, Mass.*

We know of no facts that will answer this inquiry positively one way or the other, though doubtless such may have been observed. As a matter of judgment we should consider it at least possible for the climber to be harmful. Any facts pertinent to this question will be acceptable.

LANTANAS FROM SEED.

Will you please to tell how to grow Lantana seed? I have failed, and perhaps some one else has had as bad luck.—MRS. F. O. P., *Johnsburgh, N. Y.*

Lantana seed requires considerable time to germinate, and care should be taken never to allow it to become dry after sowing. Some moss placed over the soil, or a piece of cloth, will prevent rapid evaporation. A heat of 70° or over is best for it.

HARDY CLIMBERS—SOLANUM.

Please inform the readers of your excellent MAGAZINE when will be the best time to plant the seeds of Hardy Climbers, and how long after they are planted before they make a show. Also, please tell me what is the cause of my Solanum Jasminoides not growing. The stem is covered with small, dark objects, which when rubbed off show a dark lustre; what are they?—A LOVER OF FLOWERS, *Rome, Ga.*

The seeds of the Hardy Climbers should be sown as soon after their maturity as possible, though they will retain their vitality for a considerable time. If not planted until spring the earlier they are put in the better.

Without knowing what the dark objects are that are here alluded to, it is safe to say they are no benefit to the plant, nor is there much doubt that they are injurious. The proper course is to take some soft soap and water and a small brush, and wash the stems, branches and leaves of the plant. If the plant is in good soil it should now be growing freely.

PANCRATIUM ROTATUM.

Will you please inform me in your next number how to treat a Spanish Lily, or Pancratium rotatum? I have one which blossomed once, three years ago, and since then remains about the same; there are three leaves on it.—MRS. G. E. E., *Haverhill, Mass.*

The bulb should be allowed to rest during summer and fall, by keeping it pretty dry. Let the leaves dry down and growth entirely cease. In November commence gradually to give water, and as the young leaves appear bring it close to the glass. With the living room temperature in the window it will do well and come into flower. It needs a good supply of water while growing and blooming.

SOWING FLOWER SEEDS.

Please inform me how and when to sow Lobelia, Pansy and Portulaca seed, so as to have plants early in the garden?—W. M. S., *Chicago, Ill.*

These seeds can be sowed in pots or boxes, this month, in a greenhouse, frame, or in the window. In regard to Portulaca, see article in this number. Lobelia and Pansy seed may be sowed in the same manner, but kept somewhat cooler.

CAULIFLOWER GOING TO SEED.

Our Cauliflower all went to seed. What was the cause of it?—G. S. & SON, *Moundsville, W. Va.*

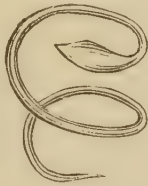
The weather was probably too hot and dry. If the plants had been freely supplied with water, the trouble might have been averted.

THE DODDER.

In the February number of the MAGAZINE Mrs. M. B. B. takes exceptions to the name, Dodder, as applied to *Cuscuta*; or what she called "Golden Thread." Her name is a very poetical one, no doubt, and means, perhaps, as much as Dodder. I am in ignorance, however, as to what the latter means, and would be glad to receive information. She asks "how can any one speak of its 'anomalous conduct.'" But I would ask again, how could any one call it anything else but "anomalous," when compared with the Morning Glory, a member of the same order. The genus *Cuscuta*, with a stem destitute of green leaves, or of a root, or of the large flowers of the Morning Glory, is very different indeed, and, therefore, "anomalous." But it differs still more, and in a more essential manner from the normal type of the family to which it belongs. While the Morning



EMBRYO OF MORNING GLORY.



EMBRYO OF DODDER.

Glory has two well developed cotyledons in the embryo, the Dodder has none at all. This difference is shown in the figures here given. While the first, from the very first unfolding of its leaves until it has attained its growth has to depend on its own exertions to elaborate the sap necessary for its growth, the second, from its birth takes the nourishment necessary for its growth by sucking the juices from other plants, killing others in order to feed itself. Is this the "beautiful lesson for all mankind?" Are we to copy after, and pattern our lives in imitation of this parasite, and become parasites ourselves? Live off our friends and ruin them for their kindness? Is that the lesson it teaches? Were it one of those Epiphytes or Air Plants, which, though growing on other plants still draw their subsistence from the air, then, indeed, we might believe in a lesson to be drawn from them; but they are not of that kind, and I can think of no good lesson to be drawn from them.

What, indeed, does it want with "green leaves!" Nothing at all, and therefore it

has none. The office of the leaves is simply and solely to prepare the matter necessary for the growth of the plant. Leaves act for trees and herbs as lungs act for us. They are breathing organs. While our lungs absorb the oxygen and exhale carbonic acid, the lungs of trees do the reverse, viz., absorb carbonic acid and exhale oxygen; and the carbonic acid taken in by the leaves is what goes to make up the sap, by means of which life becomes possible. But when a plant takes its food already prepared from some other plant, then it has no need of these breathing organs; therefore it is, that the Dodder has no leaves, and not because there is no leaf that ever grew that is a fit ornament for "the polished stems." Say, rather, there is no leaf so lost to all sense of shame as to care to adorn such a vile parasite.

There is a very strong argument to be made against the beautiful "Golden Thread;" that is nothing more or less than that it contrives to work an immense amount of mischief. All botanists, and certainly all agriculturists, are agreed that it is a vile pest, and does a great deal of harm in fields where it has once taken possession, and it would be well for the farmers to destroy it whenever they can, wherever it makes its appearance.—J. F. J., *Cincinnati, O.*

SOME NOTES.

Venus' Fly Trap.—In answer to C. M. B.'s inquiry, on page 50, I would say, that dealers in native plants can supply this, or almost any other native plant of this country that is worth growing, and at moderate cost. The leading nurserymen in England, and on the continent, also have it for sale.

Lilium tenuifolium, mentioned on page 52, is a lovely little Lily, and can be grown in pots so as to bloom in April. Keep it cool and at rest till the first of March, then introduce it to warmer quarters, and it will "come away" quite briskly.

Eupatorium ageratoides, noticed on the same page, is one of the most showy and useful of fall blooming, hardy plants, and grows luxuriantly in any part of the garden, providing the soil is not very dry. It is easily raised from seed, and if seedlings are raised early in spring they will bloom the same year; or, to multiply it,

you can divide the old plants into numerous pieces. Instead of allowing it to grow loose and straggling, as you find it in the woods and waste places, tie it up neatly. Many of our wild plants, as the finer Asters, that look so weedy in their wild state, if grown in compact clumps and tied to stakes make handsome garden flowers.

Chrysanthemums.—In the Southern States, both the Chinese and Japanese Chrysanthemums are hardy, and not unfrequently found in gardens there. But the starved and woeful look they sometimes present are often due to starvation, and to the fact that the clumps have been left undisturbed for several years. As hardy plants the clumps should be lifted, divided and replanted every year; early in spring is the best time to do it. At Boston, here, Chinese Chrysanthemums have repeatedly lived outside in the garden over winter, but they are uncertain and liable to injury, and some varieties are more tender than others.

As regards propagating Chrysanthemums from suckers, in the autumn, I would remark, the Boston Chrysanthemums are admitted to be the best grown in the country, and the prize growers, WOOD, WALCOTT, CLARK, ATKINSON, and others, invariably propagate theirs in spring, and almost always from cuttings. Some of them secure cuttings as soon as the plants have done blooming, say in December or January, and keep them in a cool place; in March, the tips of these cuttings are taken off and struck, and the root part thrown away. The point they aim at is to get a strong, healthy cutting, which when rooted shall be potted on and kept growing without receiving any check whatsoever, or becoming in the least degree pot bound. About the end of May they are planted out, and lifted and potted in September.

THE SCENERY OF NIAGARA.

Petitions are now being sent in to the Legislature of this State to enact a proper law to preserve for public use the land lying along the river bank, above and below Niagara Falls. The desire is that the recommendations be carried into effect that were made in the special report on the preservation of these grounds, by the Commissioners of the New York State Survey, of whom Mr. OLMSTED, the

well known landscape gardener, was one, and in whose judgment the public have confidence.

"To give satisfactory access to the Falls of Niagara and preserve their value, the extent of land requisite to be withdrawn from private ownership is fortunately small. The area which Messrs. GARDNER and OLMSTED find necessary to be taken for these purposes, includes, besides the islands above the Falls, a strip of the river bank on the main land commencing at the head of the rapids and running along the shore to the upper suspension bridge. The breadth of this strip is mainly determined by the crest of a natural terrace, generally about a hundred feet distant from the water's edge, but so much wider in the immediate vicinity of the falls that at the point of greatest interest, a spacious area would be obtained for the accommodation of visitors, and incongruous objects would be more effectually kept out of sight.

"It is designed that the buildings now standing upon this strip of land shall be removed, and that the immediate bank of the river shall be formed so as to have a natural aspect, with such slopes, and so protected by rough, loosely piled local rock, as to be guarded against surges of floating ice and logs. Trees and bushes are proposed to be planted, of such kinds and in such dispositions as are natural to the locality. Carried back to the boundary on the crest of the terrace, this planting would obscure the buildings of the village, and secure their landscape disconnection with the river.

"Within and along the rear of the narrow woodland, a road and walk should be laid out with branches from the walk to inconspicuous shaded seats commanding views of the rapids, and to a more extended platform overlooking the falls and chasm."

The estimated cost to the State for the necessary purchases to effect this improvement is one million of dollars, a sum so comparatively small to the people of this State that it cannot be weighed against the value of the work. The public ownership of the grounds desired, and their appropriate improvement will be a matter of pride to every citizen of the State and the country. It is probable, we learn, that legislative action will be taken to secure the grounds.

HERBACEOUS PLANTS.

At a late meeting of the Massachusetts Horticultural Society, when herbaceous plants were considered, we find according to the report, that EDWARD L. BEARD said that the *Narcissus* is among the most neglected plants. They will repay all the care that can be given them. The double *Narcissus poeticus* has a tendency to blight its buds when the soil becomes exhausted, but generous feeding will cause an astonishing improvement, and the same is the case with the long-tubed species, such as the Emperor and Empress, two very fine new varieties. The same may be said of the Lily of the Valley, which is so generally left to take care of itself; and, indeed, this mistake is made with many herbaceous plants. The double *Pyrethrums* are among the most desirable plants; they require division and good culture. Some herbaceous plants will live along without much care, but the finer kinds require as much as a bed of Roses. The *Anemone Japonica*, especially the white variety, may be placed in the foreground of useful plants.

Mrs. H. L. T. WOLCOTT, said that her *Narcissus* buds failed so that she gave up in despair, but she took up the bulbs and reset them, and every bud gave a flower.

Hon. MARSHALL P. WILDER spoke of *Spiræa Sinensis*, known also as *Spiræa*, *Astilbe*, or *Hoteia Japonica*, as one of the most beautiful herbaceous plants. It forces finely. Nothing is more gorgeous than the *Pæonies*, either tree or herbaceous, but they are much neglected. If the old dark crimson *Pæony* were introduced now as new, it would be highly esteemed.

Mr. BEARD spoke of the Everlasting Pea, either the rose-colored or white variety, as one of the most beautiful of garden flowers, scrambling over rocks or a low trellis. If the seed pods are removed it will bloom continuously. He saw the *Gloxinia* cultivated successfully in a cold-frame, last summer, and forming a most beautiful sight. When grown in this way the roots can be easily wintered by storing them in a temperature of forty-five degrees. In the spring they must be started in the house.

E. H. HITCHINGS mentioned as desirable native climbing plants, the *Clematis Virginiana*, *Mikania scandens* and *Apios tuberosa*.

Mr. MANNING said that *Apios tuberosa* must be grown in sandy soil, as the tubers decay in rich soil, and when it thrives it is apt to become a weed. The *Iris Kämpferi* does better after dividing.

Mr. HOVEY recommended the tuberous rooted *Begonia* for planting in the open air. Some of the varieties are too delicate, but others grow freely and bloom up to frost when treated like *Gladioli*.

Mr. BEARD said that the light-colored varieties stand the sun better than the dark, and all are beautiful by partial shade, and in such a situation out-doors they do better than under glass. The double ones are apt to drop their flowers.

OLEANDER.

Two correspondents, both living in high latitudes, inquire about the Oleander dropping its buds. Neither of them gives the full facts of the case. We do not know, but have some reasons to think that in both these cases the plants are kept growing during winter and come into flower at that season. If this be the fact, the probability is that lack of heat is the cause of dropping the buds. In all cold climates it is best to rest the Oleander during winter, setting it away secure from frost and suspending water almost entirely. The latter part of winter, or early in spring, it may be cut back and brought into heat and supplied with water, then it will make its new growth and be ready to bloom during the heat of June, July and August.

PUBLICATIONS RECEIVED.

The American Boy's Handy Book, by D. C. BEARD, published by CHARLES SCRIBNER'S SONS, must be a treasure in the hands of an ingenious and active boy. All sorts of sports for land and water, and for all seasons of the year are described. Information of much value is given, with good illustrations in regard to a great variety of operations, among which may be mentioned "How to Stock, Make and Keep an Aquarium," "Home-made Boats," "How to Rig and Sail Small Boats," "How to Camp out without a Tent," "Bird Nesting," "How to Rear Wild Birds," "Practical Taxidermy for Boys," &c. The above are only a few of a very great variety of subjects that this book treats of in a very fascinating and useful way.

PROPAGATING GRAPEVINES.

The Grapevine is multiplied in a number of ways. It is easily raised from seed by sowing it when ripe, or by preserving it in moist soil or sand and sowing it in the spring. Unfortunately, varieties will not reproduce themselves in this manner, and there is little probability of getting anything worth preserving by sowing seeds of even the best varieties. The raising of seedlings is an operation worthy of the attention of those only who practice artificial cross-fertilizing, and make an art of producing new varieties. The time given it by an amateur, or ordinary cultivator, will almost certainly be lost, so far as realizing any valuable result. Raising vines from cuttings is one of the best, as it is one of the most common methods. Cuttings of the ripened wood are made in the fall or winter. Figure 1 represents a three-eye cutting such as is usually made from short-jointed wood. The base of the cutting should be a clean, smooth cut, made by a sharp knife. A cutting of two eyes, figure 2, is long enough when made from strong shoots and canes. Roots form more readily at a node, or just below a bud, hence all cuttings of ripened wood are made in this manner. As the shortest length of a cutting suitable for planting in the open ground is the distance of the two eyes, and as the upper eye is left to grow, while the base is below the second eye, it was for a long time thought that the limit of propagation of any given quantity of wood was represented by the number of two-eye cuttings that could be made, until a quick-witted genius conceived the idea of making a cutting like that shown at figure 3; here, by a slanting cut back of the upper bud, the node is cut through, leaving the base of the cutting

above it the same as the base of figure 3, thus giving a cutting of the length of two eyes, but in fact using only one eye.

Cuttings of single eyes, made as shown at figure 4, are very generally employed when they are started in frames, hot-beds, or propagating houses, where all the best conditions for them can be uninterruptedly secured.

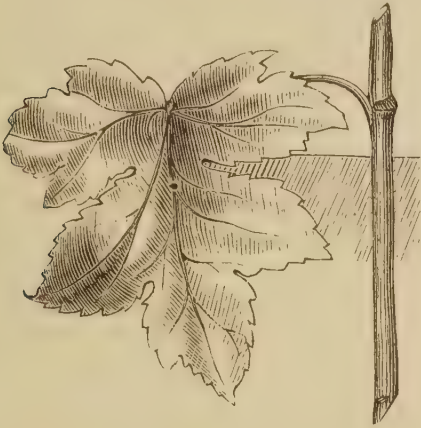
Cuttings made in the fall before the ground freezes can be buried entirely until spring, and thus kept fresh; if made in the winter when snow or frost prevents access to the ground, they can be placed in soil or sand in the cellar. It is best to tie the cuttings in bundles of fifty each, having the butts all even. Open a trench in the garden a foot or two wide and as long as necessary, and five or six inches deeper than the length of the cuttings; in this flat-bottomed trench the little bundles can be placed side by side and upside down, that is, with the base ends up. Then cover over the soil, working it among the bundles as much as possible, and thus

leave them in their winter quarters. Cuttings made in winter and stored in the cellar can be taken out early in spring and be trenched in in the same manner, and left until planting time, which will be when the ground is warm or when Corn may be planted. The effect of the heat in the warm soil covering the cuttings is to cause a slight movement of sap, and a callous will form around the base of each cutting, which is the first step toward the emission of roots; if left long enough roots will form. While the cuttings in their inverted position are thus favorably situated for the formation of roots, there is always another advantage, which consists in having the upper buds buried so deep that they are kept cool, and conse-



quently dormant until root action is active; they are then in the best condition for planting.

In the open ground cuttings are planted in light, rich, mellow soil, by stretching a line and opening a shallow trench with a spade and inserting the cuttings, in a slightly slanting position, up to the upper bud; fill in the soil and tread it firm in the bottom of the trench, and finish by

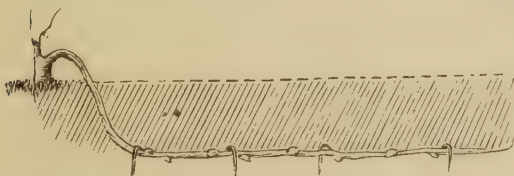


CUTTING OF GREEN WOOD WITH LEAF.

leaving the soil even with, or a little above, the bud. Growth will soon start from the eye, and clean cultivation will be all the care afterwards demanded.

Single eyes, figure 4, are raised by inserting them in light soil of leaf mold and sand contained in pots or boxes, in the same manner as the longer cuttings already described, or they may be laid flat on the surface and then be covered half an inch deep with soil; when they make a pair of leaves they will also have made roots and may then be potted off singly into small pots. Single-eye cuttings, as already noticed, are only used in house or hot-bed propagation.

Still another method is employed under glass, which is that of cuttings of the green wood, each cutting prepared with



VINE SHOOT LAYERED READY FOR BUDS TO GROW.

a leaf. The engraving represents such a cutting inserted in the sand of the cutting box nearly up to the base of the leaf-stem. This method is not advisable.

Layering is a favorite method of increasing vines, and it can be practiced in various ways. One of the simplest being merely to bend down a shoot or cane of one year's growth, bringing it into a



YOUNG VINES GROWING FROM THE EYES OF A LAYERED SHOOT.

trench four or five inches below the level, fastening it there with a peg, and covering it over with soil, leaving the end to project; roots will strike into the soil, and at the end of the season's growth the branch can be severed from the old plant, and the roots lifted, and the plant set elsewhere. A very excellent method of rapid increase by layers is to prepare in early spring a trench four or five inches deep, running out from a stock, and bring down a good one-year-old cane and fasten it with pegs. The dotted line in the engraving indicates the ground surface. At every space between two buds, with a sharp knife cut about half way into the shoot and rub a little soil in to keep it open. Cover the shoot with about an inch of soil, only leaving the buds exposed. Each bud will grow and make an upright shoot, and as soon as these shoots are a few inches above the surface the soil can be filled in around them. In the fall the young growths will be supplied with roots and can be separated and removed.

WEATHER SIGNALS.

It has been proposed that the mail trains on all railroads carry signals to show the indications of the changes in the weather for the region through which they pass, as announced by the weather bureau. No plan could be simpler or more efficient if well carried out, It would be of great service to farmers and gardeners.

AMERICAN POMOLOGICAL SOCIETY.—We are informed by President WILDER that the 19th session of the American Pomological Society will be held in Philadelphia, on the 12th, 13th and 14th days of next September.

NATIVE FERNS.

Besides the American Maidenhair, already described, our country affords four other species of *Adiantum*. We present at this time a very interesting species, *Adiantum Capillus - Veneris*, frequently called, in this country, the English Maidenhair, to distinguish it; in England, however, it is known simply as Maidenhair, and as such it was known before

tent in promoting length of tresses, and to this attributed power it owes its name, both among the Latins and moderns." Opportunity is here offered for much speculation, but we will only say that the polished stipes are sufficiently suggestive of shining, dark hair.

The plant from which our drawing was made grew at St. George, in Utah. The creeping root-stock is about one-eighth



ADIANTUM CAPILLUS-VENERIS.

of an inch in diameter, branching, and is clothed with narrow, pointed, brownish scales, which also grow up the stipe for a half or three-quarters of an inch. The stipes vary from three to five inches in length, while the fronds are about seven inches long, making the whole height from ten to twelve inches. One of the mature fronds is erect, the others somewhat bent. The pinnæ, the pinnules and the ultimate divisions are alternate. From two to three pairs of pinnæ are branching, having usually only two branches on each side, terminating with the divisions situated alternately. The general outline of the frond is ovate-lanceolate, or in some cases more nearly lanceolate; the texture is delicately membranaceous, the surface smooth, and the color is a light green. The divisions which are from less than a quarter to nearly a half inch in width, and about the same in length, may be generally described as fan-shaped, though this form is indefinitely modified by increase of either width or length, and especially by extension in length of one side beyond the other. The divisions are borne on slender

LINNÆUS translated the name into *Capillus-Veneris*; the French name is *Capillaire*, or hair-like. The stipes are slender, and black, or brownish-black, and shining, and LOUDON says the name refers to the resemblance to glossy black hair; JOHNSON, in his *British Ferns*, says: "In the days of the old herbalists the true Maidenhair Fern was considered not only efficacious in many diseases, but especially po-

der petioles from an eighth to a sixteenth of an inch in length, and usually from two to four lobed, and the upper margin of the sterile ones mostly sharply toothed. The reflexed portions of the fertile divisions forming the indusiums or involucre are crescent-shaped, or sometimes oblong, and from them are produced the sporangia, situated at the extremities of the forking veinlets. This delicate Fern

is comparatively rare in this country, but according to EATON, is found "in moist, rocky places, especially about springs and along water courses, from Wilmington, North Carolina, to Florida, Alabama, Texas, Arkansas, Utah, Arizona and the southern part of California." It has also been found in Virginia, and in Greene county, Missouri. A correspondent of the *Botanical Gazette* states that "the finest specimens in the United States, of this species, grow in N. W. Arkansas, upon shelving sand-stone ledges of White River, between high and low water mark. It grows on the calcareous tufa ledges at Hot Springs. Nothing in the foliage of plants would excite more admiration than a crevice for several hundred feet adorned by an uninterrupted line of these graceful drooping Ferns."

JOHN WILLIAMSON, author of Ferns of Kentucky, described in the following language in the Bulletin of the Torrey Botanical Club, a visit he made to see this Fern, at the head of the navigable waters of the Cumberland River, in August of 1880. "Getting into a canoe or dug-out, and with the assistance of a guide, I paddled down stream about half a mile. I got out and walked toward the waterfall, and in a moment was perfectly entranced. I wondered if it was a dream or a reality. Could it be possible that this lovely Fern should be growing in such great profusion. Yes, there it was having probably been growing for thousands of years, unheard of and unsung. Imagine a hillside torn asunder by some unknown force, forming precipitous crags and deep, cave-like recesses, with huge masses of rocks lying at the base, and numerous streams of the clearest cold water, rushing in every direction, and all over-grown with Mosses, Liverworts, Maidenhair and the Bladder Fern. Every rock, every crevice, was just one great mass of *Adiantums*. In the dark hollows, where the sun seldom penetrated, the fronds were thin and delicate, with leaflets broad and fringed, like those of *A. Farleyense* of the greenhouses. The main cascade is about eighty feet high, and over it was pouring quite a stream of water. The rim or border of this cliff was a mass of Fern fronds, some about thirty inches in length from the rootstalk, hanging down away out of reach of the destroyer, if he should ever find this place."

This Fern has a wide range, for it is found in the British Islands, and still more abundantly in the warmer countries of Europe, in northern Africa, in some parts of Asia, in Australia, the Indian Islands, Madeira, the Azores and the West Indies. As to its cultivation nothing can be more pertinent than the following statement, made by GEORGE E. DAVENPORT, of Boston, an enthusiastic student of Ferns. "I have succeeded in cultivating this species, (*A. Capillus-Veneris*) from Utah, in the open garden, and carried my plant safely through the long, severe winter of 1876-7, without any other protection than some loose brush thrown over it. The plant was set out in May, 1876, in some rock-work, by the side of a little brook, and had an open southern exposure. It grew finely all through the year, and proved itself hardy by surviving our last severe winter, and is now a fine, compact, healthy plant."

It is an excellent greenhouse plant, and will thrive well in an enclosed window. Lime rubbish, leaf mold, sand and small pebbles, in about equal quantities, form a suitable soil for it. Give the pot good drainage, by means of pieces of crock placed in the bottom. The pot should stand in a saucer, which most of the time should be supplied with water. It delights in a moist atmosphere. A plant will frequently do well in the same pot for a number of years.

DOUBLE SCARLET BOUVARDIA.

NANZ & NEUNER, of Louisville, Kentucky, who are already famous as originators of varieties of double Bouvardias, announce that they have succeeded in producing a double scarlet variety of that plant, and have named it "Thomas Meehan." "We obtained the same," say they, "by fertilizing Bouvardia 'Alfred Neuner' with *B. leiantha*, and, to judge by its habit shown so far, it will have the vigorous growth and free blooming habit of both, with a rich, dazzling scarlet color." No plants of this variety will be sent out this year.

LARGE HEADS OF CABBAGE.—I raised of the Schweinfurth Cabbage heads that weigh twenty pounds, and measure four feet in circumference.—W. G. S., *De Turksville, Pa.*

CAPE COD NOTES.

I have read with interest the accounts of several writers in your MAGAZINE in relation to sowing seeds in pots and boxes. Some recommend, after planting, to cover the ground with paper, others with cloth, and HENDERSON with sifted swamp moss; but one has to be removed when the plants are up, and the other bakes after a few waterings, so that delicate plants cannot get through. I have found horse hair from the body of the animal all that could be wished for, care being taken to remove all the long hairs of the mane and tail. Tender plants can push their way through this, it does not bake down, and, being a good non-conductor of heat and containing more or less dust, both shields and fertilizes the growing seeds.

I live on Cape Cod, twenty miles out from the main land, on exceedingly sandy sand, it could hardly be called soil, where ancient sea shores can be found almost anywhere, and where the wind, if the land is not protected, will remove the best of the soil, and sometimes the garden with it, but even here some plants will grow and thrive, and among others the *Clianthus Dampieri*. Year before last it did not bloom, we having but little sun, but last year it was in perfection. I grow it as an annual; it will ripen its seeds here. In sand the ground should be kept wet until the plant is up, then let it alone. The Silver Leafed Aspen is the largest tree we have, and is very beneficial in shielding from the wind, so that others not so robust can grow. It thrives in poor soil, and by its leaves enriches the land. But our great production is Cranberries; here the business is a science, money and labor are freely expended, and our once nearly unproductive swamps are made to gladden the pockets of the owners thereof.—S. K., *South Yarmouth, Mass.*

SOME MISTAKES.

Frequent inquiry is made for the seed of the French Immortelles. This plant, *Helichrysum orientale*, strange to say, is not known to produce seed, but is always propagated by cuttings, or division of the roots. Its culture in this country has been attempted, but we have never heard of any success with it. The flower heads on their stems, tied in bundles, are

imported for flower work. The flowers in their natural state are of a clear straw color, but are dyed in different shades. Some persons who desire to raise the plant make no inquiry about it, but purchase it in different colors, and then sow the flower heads, with the expectation of raising the plants. Their disappointment is made known some time after. This is almost equal to another blunder sometimes made by those who purchase some kinds of small flowering bulbs, which when dry are wrapped up in papers, and then packed with chaff of Buckwheat to prevent injury from bruising. It is not unfrequently the case that the chaff is treated with the most careful attention, while the little bulbs are left in the package.

PLANTS NOT BLOOMING.

I have an Alfred Neuner *Bouvardia* that has not done well at all. Is there any particular treatment for it, either in soil or manure? I have also a *Jasminum grandiflorum*; it has had only one blossom since last spring. I keep the plants in a small conservatory.—N. A. C., *Oshkosh, Wis.*

If these plants are kept in a vigorous state of health they will most surely bloom in winter. The best course now to pursue with them is to plant them out in a good place in the garden after the spring frosts are past. Here they will probably make a good growth, and in September can be lifted and potted in good soil, and removed to the conservatory.

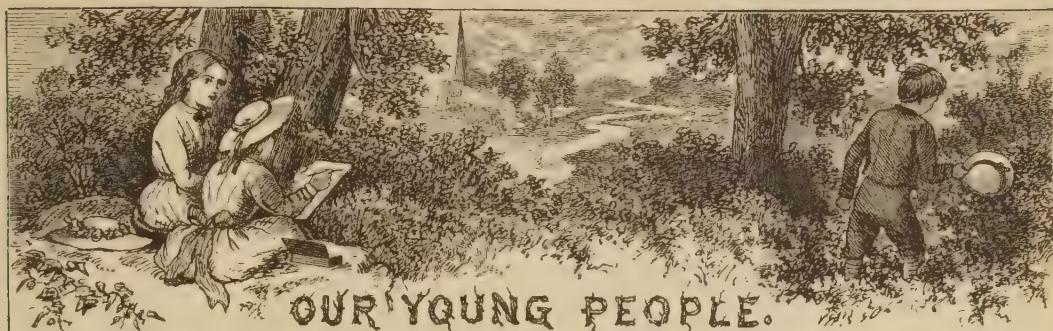
CYCLAMEN—DAHLIAS.

Will you please inform me how to raise the Cyclamen from seed, and also how to keep Dahlia roots through the winter?—MRS. E. S., *Blood's Station, N. Y.*

The answer to the first part of this inquiry may be found on page 76 of this number. Dahlia roots are kept through the winter in sand in dry cellar, secure from frost.

DESTRUCTION OF ORCHARDS.

The heavy storm of rain and sleet in the early part of February is said to have greatly damaged trees of all kinds from Pennsylvania to Illinois. The rain froze on the trees as it fell, loading them with ice, and a strong wind while they were in this condition resulted in great damage. The fruit crop of Illinois is thought to be wholly or nearly lost, while the capacity of the orchards for future fruit growing is diminished one-half.



OUR YOUNG PEOPLE.

AUNT WESTON'S VISIT.

The second morning after Aunt Weston's arrival at the Millburn mansion her three nieces gathered around her, declaring they were in league to storm her with questions for a whole hour about what she had seen that was new during her long round of travel and visits before reaching their home.

Aunt Weston was one of those persons whose presence is like a sunbeam, and whose absence leaves shadows and regrets behind. So Annie, Ethel and Alice had anticipated much pleasure from her visit, and had planned to give her the cue to many a talk on subjects dear to their hearts. But on this first advance they had only asked, in a general way, for something *new*.

Now Mrs. Weston was a very observing person, and she had been quietly taking items and drawing conclusions since entering this pleasant home. So she answered:

"It's for something new, you ask? Well, to tell the truth, the oldest and most familiar things are the ones that have proved most interesting after all; and I am glad to find upon coming here that I shall have the same about me still."

"And, besides, Auntie," chimed in Ethel, "who cares for 'old, familiar things,' unless they are old enough to be antique, and of a quality to have been valuable in their time?"

"She means our costumes," said Alice.

Then Annie exclaimed, "Does our style of dressing really look so old-fashioned that you like it for that?"

"On the contrary," said Mrs. Weston, "I note many skillful devices and little arts of the toilet whereon good taste and much thought must have been expended—after your 'modeste' had done her part

—in order to secure that 'air' and touch of 'style' so much coveted by ladies of a certain class. But my dears, you credit me with a very narrow range of observation, and appreciation as well. My first remark had no reference to your attire, nor to the furnishings and decorations of your beautiful home, which are each beyond criticism. But my thoughts embraced a wider scope, a scope including a stretch of earth and sky, and groups of young girls like you, whom I always contemplate as the future women of the land, who are to be responsible for much of the ill or happiness which goes to make up human life."

Then glancing at the paintings and statuettes all about the rooms, Mrs. Weston continued:

"It is well to cultivate an intelligent appreciation of truly artistic work in whatever form it may be developed, since even the ability to execute it is a God-given talent. But it is *not* well to cultivate a taste for what is only artificial, after all, to the exclusion of earnest study of the *real* as it is found in nature only."

"O, I see!" exclaimed Annie, "you think our lives are too artificial. Have you seen nothing since coming here that seemed real or satisfying? Do be candid, and tell us."

"Yes, I have. In coming down stairs this morning I noticed that a Gossamer spider had stretched a cable during the night from the hall chandelier to the cornice over the front door. How he accomplished this feat has puzzled me ever since, as the doors had been shut against all wafting breezes since Bridget's vigorous use of the wall sweeper yesterday. The spider and his work were not only very 'real,' but satisfying." After a laugh Ethel inquired:

"If it proved a puzzle, auntie, how could it be satisfying?"

"It was satisfying because of the pride of human intellect, which, with every helpful mechanical appliance at hand, vaunts itself over submarine and aerial cables, and yet cannot fathom the processes by which the tiny spiders accomplished similar feats long before him. Human nature is so given to vain, self-glorying that it *is* satisfying to me to know that one cannot enter into the arena of nature *but a little way*, until he stand mute and abashed before the intricate workings of what is called animal instinct, and the silent processes of vegetable development, both coming out victorious in the contest with Reason."

"And it seems," remarked Anna, "that our little spider came off victor in the contest with Bridget, and to that fact, auntie, we are indebted for your instructive talk. I am sure I have never attached any interest to spiders at all, until since the artists have seen fit to honor one sort by displaying its fantastic web on the same page with the much satirized storks and Reeds and Cat-tails. But, auntie, dear, is that one, poor little spider and its workmanship all that you have seen about our home that seems 'real' to you?"

"No, yesterday in Alice's room I noticed an exquisite plant-vase before her window with a forlorn-looking South Sea Onion in it, trying to grow." Then Alice suddenly found her tongue and exclaimed:

"Yes, that *is* real—a real eye-sore! Could you believe, Aunt Weston, that that plant was sent to me a few months ago as something very choice? It is for that reason that I have endured its presence so long, still hoping for some beauty to develop."

"You need not expect it in its present condition. Did you receive no instructions as to its treatment?"

"Only that the bulb was to be set above ground. Are you familiar with the plant?"

"I am indeed. I have one which I left with my florist for safe-keeping until such time as I shall open my house again. I wish you could see it. It is not a common plant, and mine has been the wonder and admiration of many people, not only on account of its oddity, but for its real beauty. The bulb is four inches in

diameter and sits like an emerald globe upon the surface of the soil, with not a blemish to mar the beauty of its symmetry."

"Does it not bloom?" inquired Alice.

"It does; but the flowers are devoid of beauty, and—like the Farfugium—the plant is less beautiful in appearance after having bloomed."

"I declare, auntie," exclaimed Alice, "it seems like irony to use the word 'beautiful' in connection with such a plant."

"I can understand it—excuse me, after having seen yours. Allow me to suggest that certain plants can never attain to a perfect development unless surrounded by certain conditions favoring that result. If these are utterly disregarded, the plant should not be defamed in consequence. All plants do the very best they can under the circumstances. They do not yield up life without a struggle. In some of them the tenacity of endurance is wonderful. Although your Sea-Onion has been hampered and tortured and snubbed until totally unable to grow after its own fashion, it still lives; although the bulb is yellow and the leaves dead and brown at the tips."

"At the tips, yes"—rejoined Alice, "and that's because the tips were forever grazing against the stand on which it is placed, until I raised them up and tied them together."

"Poor thing!"

"Do you mean me, or my plant?"

"Well, both. When you saw the tendency of the leaves to curve and grow downward could you not have taken the hint, and managed in some way to give them more room in that direction?"

"I might have set something under the vase to raise it up, I suppose; but I never thought of that." Then Mrs. Weston remarked:

"Perhaps our relative experience with the same kind of plant furnishes as good an instance as any for illustrating the necessity of understanding the habits and growth of certain plants, in order to cultivate them successfully. So I will furnish the description of my Sea-Onion. The leaves being long, bladed, and curving, are divided, as you know, into two distinct groups or tiers, one above another. Some of the leaves are two feet in length, meeting underneath and completely in-

closing the buff-colored vase in their curves, making a beautiful picture."

"Is your vase *suspended*?" quickly inquired Alice.

"Of course, my dear. How else could the drooping leaves grow to such a length in their own graceful fashion, with not a spot to mar their brilliant green?"

"Sure enough! how stupid of me not to have thought of it. Do you suppose that proper treatment commenced now would restore mine to beauty?"

"That is doubtful. What would you do with all those blunted leaves with their brown ends. The whole thing must be perfect to be beautiful. But bring down your plant, please, and let us examine it a moment."

Soon after Alice reappeared, exclaiming, "There are two little knobs on the side of the bulb that I had not noticed before."

"Ah, yes, I see," said her aunt. "You have two little bulbs here under this yellow film, and this I'll remove. Now look! your bulb is green once more; and from these small ones you can try your hand at raising fresh plants."

"But, auntie," cried Ethel, "what an idea for that plant to propagate itself in that way! When you pulled off that membrane and the little bulbs tumbled down, it reminded me of the young kangaroos being carried about in the mother's pouch."

"It is very curious," said the aunt, "but the young bulbs more frequently appear lower down, just on the edge of the soil, where one would naturally expect them to grow. I told you the plant was an oddity, and you can now judge whether it be not the more interesting for that. It has been dreadfully stigmatized. A city friend of mine, recently, showed me one which had been tabooed and banished to the little court back of the house, where it dragged its mutilated leaves in the soil, and was certainly very unlovely. Another friend had buried the bulb of hers quite below the soil, and inquired what kind of Lily it could be! Soon after being resurrected its blanched bulb began to assume its natural green, all going to show that plants may be robbed of all native beauty by ill-treatment."

Then, said Alice, "And your talk, auntie, goes to show that you think we ought to cultivate plants."

"I think," answered Mrs. Weston, "that the mental and moral atmosphere of every home is the better for having something within it, not fashioned by man, that shall daily arrest the attention and require a little thoughtful care of the inmates. If I have said too much excuse me, but I do not like to think that my nieces give thought to nothing but the artificial, however beautiful and æsthetic it may be."—AUNT MARJORIE.

TWO SONGS.

I tuned my harp and sung of grief,
Grief born of wrong and broken trust.
Not light to me that pang, or brief—
My heart bent under to the dust;
'Twas morning then, but night seemed near;
'Twas summer, but the fields looked bare;
All things took color from my fear.
I passed the peace, and nursed the care;
The echoes caught that saddened song,
But they have lost it long ago;
Time's dulling years have swept along,
And I've forgot my early woe.

Again I sung—a song of love,
Love sweet and earnest, young and true;
It was a bliss all bliss above,
It was a joy forever new;
'Twas as a light, and even now
It floods the chambers of my soul,
It rests its glory on my brow,
And tips with gold time's waves that roll;
Through it I saw much good in men—
Saw all things better than my fears;
I lent it to the echoes then,
And they have kept it all these years.

—WM. LYLE.

LITTLE WEAVERS.

Curious little weavers are the spiders, who spin their thread in the following manner: On the underside of their bodies are four, sometimes six, little spinnerets, which are like minute knobs, no larger around than the point of a pin. The silk is prepared in the abdomen of the spider, and when wishing to spin he presses his spinneret with his legs, and there is produced from each tiny knob many hundred fibres of silk, so fine that singly they cannot be discerned with the eye. With the claws of his hind legs the spider gathers these fibres and twists them together, forming a little rope, which, to all appearance, looks like a single fine thread, but in reality is composed of over a thousand strands. There is one who weaves his net in such a perfect circle that he has been named the geometric spider, every thread he places as accurately as if he used a measure for the purpose. He is a

large-sized insect, of gold and jet-black coloring, and may sometimes be seen in the gardens through the summer time.

Still another, even more curious, is the trap-door spider, who, instead of spinning a net, burrows a long tube in the earth, then lines it with the silk that he spins. The opening leading into this nest is made safe by a lid, or door, which is ingeniously fastened on as with a hinge, and this can be raised or shut at the spider's pleasure. The grass and leaves which grow about it completely hide it from sight, so that he has a safe home when he is once in this little fortress. Sometimes he will make a second gallery branching from the main one, and in this case two doors secure the entrance. The inner door is placed at a short distance from the outside one, and closes both passages, so there is no danger of an enemy being able to effect an entrance.

Some of the spiders of the tropics are of enormous size, one of which is the bird-catching spider. It is almost entirely black, very nearly two inches long, and when its legs are fully spread covers a space measuring about a foot. Its home is made in the clefts of rocks, or the hollows of trees, and looks as if it were of thin white muslin. This huge creature ventures out only at night to find its food, which consists of insects, and even humming birds. Very different from this one is the house spider, a little black one, who weaves his web and then lies in wait until a fly ventures too near and is caught in its meshes. The spider then has his meal without the trouble of hunting for it.

Then there are the field spiders, many of them most brilliantly colored with various shades, some a beautiful green, and others even gold and green. Many of these insects have eight eyes, some six, and others only two. They also have eight legs and seven joints in each leg. Some run over the ground with great swiftness, others jump long distances, and still another kind can drop several feet,

at the same time rapidly spinning out a thread by which to support itself so that it shall not fall.

The Rev. GILBERT WHITE, in his "Natural History of Selborne," relates the following experience with field spiders: "On September 21st, 1741, being then on a visit, and intent on field-diversions, I rose before daybreak: when I came into the enclosures, I found the stubbles and clover-grounds matted all over with a thick coat of cobweb, in the meshes of which a copious and heavy dew hung so



plentifully that the whole face of the country seemed, as it were, covered with two or three setting-nets drawn one over another. When the dogs attempted to hunt, their eyes were so blinded and hoodwinked that they could not proceed, but were obliged to lie down and scrape the incumbrances from their faces with their fore-feet, so that, finding my sport interrupted, I returned home musing in my mind on the oddness of the occurrence."

Spiders are found in most parts of the world, but those of the tropics are of the most enormous size, and their sting is very poisonous. All of the different varieties of these insects change their skins many times while growing, but are always of the same shape. The wonderful skill and ingenuity displayed by these little creatures in the construction of their homes cannot but make them objects of interest.—M. E. WHITEMORE.



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EULALIA JAPONICA ZEBRA